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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/571,868

11/09/2006

Elmar Stumpf

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EXAMINER

MASHRUWALA, NIKHIL P

ART UNIT

PAPER NUMBER

3749

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/571,868	<b>Applicant(s)</b> STUMPF, ELMAR	
	<b>Examiner</b> NIKHIL MASHRUWALA	<b>Art Unit</b> 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/14/2006</u> .   | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 13 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claim 13, states “ especially vegetable oil” to be used as a liquid fuel for a gas burner which is indefinite subject matter. Either to delete such wordings or incorporate it in its body of the claim as a new limitation.

For claim 28, preamble of combination and subcombination of the subject matter for mentioning “liquid fuel formed from vegetable oil” to be used as a fuel in a gas burner is disagreeable in scope of the limitations as indefinite. Applicant must positively recite combination and subcombination of fuel type in its intended use.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 13-18 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by German publication DE 10161154 A1 of Stumpf, Elmar et al.

For claim 13, Stumpf shows a gas burner in (figs 1-3, claim 1) running in

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vegetable oil, having an evaporator for vaporizing liquid fuel ( see description para one of translation). This vaporizer has two equal tubular sections (1 & 2) as double loop made out of a double-walled metal structure (see 2<sup>nd</sup> last para of translation) an interior material wall and an external material wall. Stumpf shows a gas discharging recess ( a channel/nozzle 4, per claim 3) in the wall of the tubular sections (1 & 2). Both the loops of the tubular section of the evaporation chamber is limited by a boundary wall per fig 1.

For claims 14-18, as applied to 13 above, Stumpf shows two different types of conductive materials for the tubular sections 1 & 2 (See 2<sup>nd</sup> last para, last two lines). Chemically inactive material for interior wall to be made of high-grade steel, while for the external material for the outer wall to be well heat conductive which would be considered as copper material per choice in design (also see claim 10).

For claim 24, Stumpf shows the evaporator as two tubular sections 1 & 2 per figs 1-3.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 19-23 and 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stumpf in view of US patent no 5,807,097 of Dobbeling et al.

For claims 19 and 21, Stumpf does not disclose a tapered edge gas discharge opening from the evaporation chamber where as Dobbeling discloses a tapered edge gas opening discharge channel 16 having a narrow ( constriction point/section) inlet 15 per fig 3 in direction of arrow 3 of the gas flow. It would have been obvious to a person of ordinary skill in the art at the time invention was made to modify such tapered edge& narrower gas inlet opening from the evaporation chamber to Stumpf in view of Dobbeling so as to get sufficient gas vaporization out of the chamber through the constriction point of the tapered gas inlet.

For claims 20 and 22-23, as discussed above, Stumpf does not disclose a conical shape gas discharging channel having a cone angle between 50 deg to 70 deg or at least greater than about 15 deg to 20 deg. Cone burner of Dobbeling discloses a flat cone angle 16 in range of 10 deg to 30 deg which would be merely a choice in design in purview of an ordinary skill in the art to modify cone angle to about 10 deg to 30 deg or between 50 deg to 70 deg. Stumpf does not disclose the gas discharge opening to be a hollow-cylindrical shape at constriction point. Cone burner of Dobbeling discloses a hollow-cylindrical shape 28 (a transition region) at the constriction section 16 of the gas discharging area. It would have been obvious to a person of ordinary skill in the art to modify gas discharging area of Stumpf having a hollow-cylindrical shape at

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the constriction area in view of Dobbeling so as to get a diffuse vaporized gas flow out of the evaporator.

For independent claim 28, as discussed in claim 13 above, Stumpf discloses a gas burner in (figs 1-3, claim 1) running in vegetable oil, having an evaporator for vaporizing liquid fuel (see description para one of translation). This vaporizer has two equal tubular sections (1 & 2) as a double loop made out of a double-walled metal structure (see 2<sup>nd</sup> last para of translation), an interior material wall and an external material wall of two different materials. Stumpf also discloses a gas discharging recess (a channel/nozzle 4, per claim 3) in the wall of the tubular sections (1 & 2) so as to produce a gas jet. Both the loops 1 & 2 of the tubular section of the evaporation chamber are limited by a boundary wall per fig 1. Stumpf does not disclose its gas discharge opening 4 to be a tapered opening from the evaporation chamber connected to a constriction point formed in said gas discharge channel. Cone burner per fig 3 of Dobbeling discloses a tapered gas discharged opening 16 from the chamber having a very narrow (constriction point/section) inlet 15 in direction of arrow 3 of the gas flow. It would have been obvious to a person of ordinary skill in the art at the time invention was made to modify such tapered & narrower gas inlet opening from the evaporation chamber to Stumpf in view of Dobbeling so as to get sufficient gas vaporization out of the chamber through the constriction point.

For claims 25-27 and 30-32, as discussed above in claim 13 & 28, Stumpf does not disclose flow cross section area larger than a flow cross section formed in the constriction point and constriction point of gas discharge channel to be from inside wall.

Cone burner of Dobbeling discloses larger flow cross section area 33 than flow cross section tapered area (closer to inlet 15) at the constriction section 16 per fig 3. Also the constriction section/point of Dobbeling starts from inside of the burner wall closer to the inlet 15. It would have been obvious to a person of ordinary skill in the art to modify evaporator of Stumpf having larger flow cross section area than constriction flow area having constriction area to start from inside of the gas burner in view of Dobbeling so as to get sufficient vaporization of gas flow out of the nozzle.

For claim 29, Stumpf shows the evaporator as two tubular sections 1 & 2 per figs 1-3.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The publication of Stumpf and patent of Dobbeling disclose the state of the art in gas burner for liquid fuels.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIKHIL MASHRUWALA whose telephone number is (571)270-3519. The examiner can normally be reached on Monday thru Friday- 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven McAllister can be reached on 571-272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nikhil Mashruwala/  
Examiner, Art Unit 3749

/Steven B. McAllister/  
Supervisory Patent Examiner, Art Unit 3749